REMARKS

Claims 8-11, 15-23, 26-27 and 29-37 are pending in this application.

Claims 29, 32, 34 and 35 are objected to.

Claims 8-11, 15-23, 26-27, 30-31, 33 and 36-37 are rejected.

Base claim 18 has been amended to include the subject matter of claim 34, now cancelled. The office action indicates that claim 34 contained allowable subject matter. Therefore, amended claim 18 and its dependent claims 19-20, 26-27, 29-33 and 35-37 should be allowed over the documents made of record.

Claim 35 has been amended to depend properly from claim 18. Claim 23 has been amended for clarity.

A '112 rejection of claim 19 has been rendered moot by the amendment above to claim 19. Amended claim 19 is no longer limited to a noise model that was standard at the time the application was filed.

A '101 rejection of claim 20 should be withdrawn. Claim 20 is not simply a generic computer, as the office action alleges. Claim 20 recites a computer that is programmed to perform the method of claim 18. Thus, claim 20 recites a specific-purpose machine for generating a linear operator for demosaicing of a digital image by a digital camera.

MPEP 2106 (IV)(B)(2)(a) states "Products may be either machines, manufactures, or compositions of matter. A machine is "a concrete thing, consisting of parts or of certain devices and combinations of devices." The

computer of claim 20 is a machine. This machine performs a "useful, concrete and tangible result." See MPEP 2106(II)(A).

The office action makes a statement about pre-computer and post-computer activities. However, the relevance of this statement is not clear, since the statement relates to processes, whereas claim 20 is drawn to a machine.

The office action rejects base claim 8 under 35 U.S.C. §102(b) as being unpatentable over. Wober U.S. Patent No.5,475,769. This rejection has been rendered moot by the amendment above to claim 8.

Amended claim 8 recites a method of processing an input digital image produced by an optical system. The input image has less than full color information at each of a plurality of pixels. The method comprises accessing an operator including an array of demosaicing weights. Values of the weights are determined from measured parameters of the optical system and **inverse equations of** a model of the optical system. The method of claim 8 further comprises applying the operator to the input image to produce an output image having full color information at each of a plurality of pixels.

Wober et al. compute optimal coefficients using a known test pattern. The test pattern is captured by a digital camera, which provides a mosaic image. Then an optimum set of coefficients is calculated by minimizing the squared difference between the image of the known test pattern and a third image (the third image is obtained by linearly demosaicing the mosaic image with that set of coefficients).

Wober et al.'s linear demosaicing approach is summarized at col. 2, lines

25-35 and in particular by the equation at line 26. The equation at line 26 is A*W=X, where A is a matrix of neighborhood values acquired by a camera, X is a vector representing a single pixel, and W is a matrix that contains weighting coefficients. Thus, the equation at line 26 computes a single value (X) in the third image. The location of the pixel (X) in the third image corresponds to the central pixel of the neighborhood (matrix A). The matrix W is slid across the image of the known test pattern to compute additional pixels of the third image.

Wober et al. solve for the coefficients in matrix W using linear minimum mean square error (LMMSE) between the image of the known test pattern and the linear demosaicing of its corresponding mosaic image (i.e., the third image). The matrix W is applied to each of the pixels in the image of the known test pattern, and a set of coefficients for matrix W is computed that is best in an LMMSE sense) for all of the pixels.

Wober et al. does not teach or suggest the use inverse equations of a model. Therefore amended claim 8 and its dependent claims 8-11, 15-17 and 21-23 should be allowed over Wober et al.

The examiner is respectfully requested to withdraw the rejections of the claims and issue a notice of allowability. The examiner is encouraged to contact applicant's attorney Hugh Gortler to discuss any remaining issues.